SEQUENCE LISTING

0> Hall, Roderick L.
Poll, Christopher T.
Newton, Benjamin B.
Taylor, William J.A.

<120> Method For Accelerating The Rate of Mucociliary Clearance

<130> 98-736

<140> US 09/218,913
<141> 1998-12-22

<160> 105

<170> PatentIn version 3.1

<210> 1
<211> 179
<212> PRT
<213> Homo sapiens

<400> 1

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
1   5   10   15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
            20   25   30

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
        35   40   45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
    50   55   60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
65   70   75   80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
                85   90   95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
            100   105   110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
        115   120   125

1

```
Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
    130             135             140

Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
145             150             155             160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
                165             170             175

Ala Val Ser


<210>  2
<211>  197
<212>  PRT
<213>  Homo sapiens

<220>
<221>  SIGNAL
<222>  (1)..(18)
<223>


<400>  2

Ala Gly Ser Phe Leu Ala Trp Leu Gly Ser Leu Leu Leu Ser Gly Val
1               5               10              15

Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
            20              25              30

Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
        35              40              45

Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
    50              55              60

Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
65              70              75              80

Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
            85              90              95

Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
            100             105             110
```

```
His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
        115                 120                 125

Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
    130                 135                 140

Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn
145                 150                 155                 160

Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg
                165                 170                 175

Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu
                180                 185                 190

Ala Gly Ala Val Ser
        195


<210>   3
<211>   153
<212>   PRT
<213>   Homo sapiens

<400>   3

Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala
1               5                   10                  15

Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu
            20                  25                  30

Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys
            35                  40                  45

Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly
    50                  55                  60

Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala
65                  70                  75                  80

Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr
                85                  90                  95

Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser
                100                 105                 110
```

3

Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe
        115   120   125

Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu
        130   135   140

Ala Cys Met Leu Arg Cys Phe Arg Gln
145   150

<210>   4
<211>   58
<212>   PRT
<213>   Homo sapiens

<400>   4

Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala
1   5   10   15

Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu
        20   25   30

Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys
        35   40   45

Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
        50   55

<210>   5
<211>   51
<212>   PRT
<213>   Homo sapiens

<400>   5

Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg
1   5   10   15

Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly
        20   25   30

Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu
        35   40   45

Lys Lys Cys

4

50

<210>   6
<211>   58
<212>   PRT
<213>   Homo sapiens

<400>   6

Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
1   5   10   15

Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
            20   25   30

Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
        35   40   45

Glu Ala Cys Met Leu Arg Cys Phe Arg Gln
    50   55

<210>   7
<211>   51
<212>   PRT
<213>   Homo sapiens

<400>   7

Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg
1   5   10   15

Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly
            20   25   30

Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met
        35   40   45

Leu Arg Cys
    50

<210>   8
<211>   92
<212>   PRT
<213>   Homo sapiens

<400>   8

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val

```
1                    5                       10                          15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
            20                      25                  30


Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
        35                      40                  45


Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
    50                      55                  60


Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
65                      70                  75                  80


Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser
                85                      90
```

<210> 9
<211> 708
<212> DNA
<213> Artificial Sequence

<220>
<223> Consensus DNA sequence of human Bikunin (Fig. 3).

<220>
<221> misc_feature
<222> (679)..(679)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (707)..(707)
<223> "n" is any nucleotide.

<400> 9
```
ggccgggtcg tttctcgcct ggctgggatc gctgctcctc tctggggtcc tggcggccga      60

ccgagaacgc agcatccacg acttctgcct ggtgtcgaag gtggtgggca gatgccgggc     120

ctccatgcct aggtggtggt acaatgtcac tgacggatcc tgccagctgt ttgtgtatgg     180

gggctgtgac ggaaacagca ataattacct gaccaaggag gagtgcctca gaaatgtgc      240

cactgtcaca gagaatgcca cgggtgacct ggccaccagc aggaatgcag cggattcctc     300

tgtcccaagt gctcccagaa ggcaggattc tgaagaccac tccagcgata tgttcaacta     360

tgaagaatac tgcaccgcca acgcagtcac tgggccttgc cgtgcatcct tcccacgctg     420
```

6

```
gtactttgac gtggagagga actcctgcaa taacttcatc tatggaggct gccggggcaa     480

taagaacagc taccgctctg aggaggcctg catgctccgc tgcttccgcc agcaggagaa     540

tcctcccctg ccccttggct caaaggtggt ggttctggcc ggggctgttt cgtgatggtg     600

ttgatccttt tcctggggag catccatggt cttactgatt ccgggtggca aggaggaacc     660

aggagcgtgc cctgcgganc gtctggagct tcggagatga caagggnt             708
```

<210> 10
<211> 197
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino acids -18 to 179 of translation of consensus sequence in Fig. 3.

<400> 10

```
Ala Gly Ser Phe Leu Ala Trp Leu Gly Ser Leu Leu Leu Ser Gly Val
1               5                   10                  15


Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
            20                  25                  30


Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
            35                  40                  45


Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
    50                  55                  60


Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
65                  70                  75                  80


Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
                85                  90                  95


Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
            100                 105                 110


His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
            115                 120                 125


Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
    130                 135                 140
```

7

```
Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn
145                 150                 155                 160


Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg
                165                 170                 175


Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu
            180                 185                 190


Ala Gly Ala Val Ser
        195


<210>  11
<211>  179
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Variants of human Bikunin.

<220>
<221>  MISC_FEATURE
<222>  (8)..(8)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
<222>  (17)..(17)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
<222>  (19)..(19)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
<222>  (21)..(26)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
```

in SEQ ID NO:11 is different from the corresponding amino acid
residue of the native sequence (see page 10 of specification).

<220>
<221> MISC_FEATURE
<222> (40)..(40)
<223> Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).

<220>
<221> MISC_FEATURE
<222> (42)..(42)
<223> Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).

<220>
<221> MISC_FEATURE
<222> (45)..(47)
<223> Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).

<220>
<221> MISC_FEATURE
<222> (52)..(52)
<223> Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).

<220>
<221> MISC_FEATURE
<222> (64)..(64)
<223> Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).

<220>
<221> MISC_FEATURE
<222> (103)..(103)
<223> Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).

```
<220>
<221>  MISC_FEATURE
<222>  (112)..(112)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
<222>  (114)..(114)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
<222>  (116)..(121)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
<222>  (135)..(135)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
<222>  (137)..(137)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
<222>  (140)..(142)
<223>  Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).


<220>
<221>  MISC_FEATURE
```

<222> (147)..(147)
<223> Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).

<220>
<221> MISC_FEATURE
<222> (159)..(159)
<223> Each "Xaa" independently represents a naturally occurring amino
       acid residue except Cys, with the proviso that at least one "Xaa"
       in SEQ ID NO:11 is different from the corresponding amino acid
       residue of the native sequence (see page 10 of specification).

<400> 11

Ala Asp Arg Glu Arg Ser Ile Xaa Asp Phe Cys Leu Val Ser Lys Val
1   5   10   15

Xaa Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Trp Trp Tyr Asn Val Thr
            20   25   30

Asp Gly Ser Cys Gln Leu Phe Xaa Tyr Xaa Gly Cys Xaa Xaa Xaa Ser
            35   40   45

Asn Asn Tyr Xaa Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Xaa
    50   55   60

Thr Glu Asn Ala Thr Gly Asp Leu Ser Thr Ser Arg Asn Ala Ala Asp
65   70   75   80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu His Asp Ser
                85   90   95

Ser Asp Met Phe Asn Tyr Xaa Glu Tyr Cys Thr Ala Asn Ala Val Xaa
            100   105   110

Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Trp Tyr Phe Asp Val Glu Arg
        115   120   125

Asn Ser Cys Asn Asn Phe Xaa Tyr Xaa Gly Cys Xaa Xaa Xaa Lys Asn
    130   135   140

Ser Tyr Xaa Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Xaa Gln
145   150   155   160

11

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
            165   170   175

Ala Val Ser

<210> 12
<211> 393
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (361)..(361)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (367)..(367)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (384)..(384)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (390)..(390)
<223> "n" is any nucleotide.

<400> 12
ggccgggtcg tttctcgcct ggctgggatc gctgctcctc tctggggtcc tggccggccg   60

accgagaacg cagcatccac gacttctgcc tggtgtcgaa ggtggtgggc agattccggg   120

cctccatgcc taggtggtgg tacaatgtca ctgacggatc ctgccagctg tttgtgtatg   180

ggggctgtga cggaaacagc aataattacc tgaccaagga ggagtgcctc aagaaatgtg   240

ccactgtcac agagaatgcc acgggtgacc tggccaccag caggaatgca gcggattcct   300

ctgtcccaag tgctcccaga aggcaggatt cttgaagacc acttcagcga tatgtttcaa   360

ntattgnaag aataattgca ccgncaacgn att   393

<210> 13
<211> 110
<212> PRT

<213> Homo sapiens

<220>
<221> SIGNAL
<222> (1)..(18)
<223>

<400> 13

Pro Gly Arg Phe Ser Pro Gly Trp Asp Arg Cys Ser Ser Leu Gly Ser
1   5   10   15

Trp Pro Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
                20   25   30

Lys Val Val Gly Arg Glu Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
                35   40   45

Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
        50   55   60

Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
65   70   75   80

Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
                85   90   95

Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser
                100   105   110

<210> 14
<211> 510
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (424)..(424)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (481)..(481)
<223> "n" is any nucleotide.

<220>
<221> misc_feature

13

<222> (509)..(509)
<223> "n" is any nucleotide.

<400> 14
gcaataatta cctgaccaag gaggagtgcc tcaagaaatg tgccactgtc acagagaatg   60

ccacgggtga cctggccacc agcaggaatg cagcggattc ctctgtccca agtctcccag   120

aaggcaggat tctgaagacc actccagcga tatgttcaac tatgaagaat actgcaccgc   180

caacgcagtc actgggcctt gccgtgcatc cttcccacgc tggtactttg acgtggagag   240

gaactcctgc aataacttca tctatggagg ctgccggggc aataagaaca gctaccgctc   300

tgaggaggcc tgcatgctcc gctgcttccg ccagcaggag aatcctcccc tgccccttgg   360

ctcaaaggtg gtggttctgg ccggggctgt ttcgtgatgg tgttgatcct tttcctgggg   420

agcntccatg gtcttactga ttccgggtgg caaggaggaa ccaggagcgt gccctgcgga   480

ncgtctggag cttcggagat gacaaggggnt   510

<210> 15
<211> 20
<212> PRT
<213> Homo sapiens

<400> 15

Leu Pro Asp Gln Gly Gly Val Pro Gln Glu Met Cys His Cys His Arg
1   5   10   15

Glu Cys His Gly
          20

<210> 16
<211> 427
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (3)..(3)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (11)..(12)
<223> "n" is any nucleotide.

<220>

14

```
<221>   misc_feature
<222>   (17)..(17)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (48)..(48)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (425)..(425)
<223>   "n" is any nucleotide.


<400>   16
gcngcgcgtt nntcgcntgc tgggatcgct gcacctctct ggggtcgngg cggccgaccg      60

agaacgcagc atccacgact tctgcctggt gtcgaaggtg gtgggcagat gccgggcctc     120

catgcctagg tggtggtaca atgtcactga cggatcctgc cagctgtttg tgtatggggg     180

ctgtgacgga aacagcaata attacctgac caaggaggag tgcctcaaga aatgtgccac     240

tgtcacagag aatgccacgg gtgacctggc caccagcagg aatgcagcgg attcctctgt     300

cccaagtgct cccagaaggc aggattctga agaccactcc agcgatatgt tcaactatga     360

agaatactgg caccgccaac gcattcactg ggcctgcgtg catccttccc acgctggtac     420

tttgncg                                                              427


<210>   17
<211>   423
<212>   DNA
<213>   Homo sapiens

<220>
<221>   misc_feature
<222>   (6)..(6)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (401)..(401)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (407)..(407)
<223>   "n" is any nucleotide.
```

15

```
<400>  17
tgggantcgc tgctcctctc tggggtcctg gcggccgacc gagaacgcag catccacgac        60

ttctgcctgg tgtcgaaggt ggtgggcaga tgccgggcct ccatgcctag gtggtggtac       120

aatgtcactg acggatcctg ccagctgttt gtgtatgggg gctgtgacgg aaacagcaat       180

aattacctga ccaaggagga gtgcctcaag aaatgtgcca ctgtcacaga gaatgccacg       240

ggtgacctgg ccaccagcag gaatgcagcg gattcctctg tcccaagtgc tcccagaagg       300

caggattctg aagaccactc cagcgatatg ttcaactatg aagaatactg caccgccaac       360

gcagtcactg ggccttgcgt ggaatccttt cccacgctgg naatttngac gttgagaagg       420

aac                                                                     423


<210>  18
<211>  57
<212>  PRT
<213>  Unknown

<220>
<223>  Kunitz-like domain of tissue factor pathway inhibitor precursor 1.

<400>  18

His Ser Phe Cys Ala Phe Lys Ala Asp Asp Gly Pro Cys Lys Ala Ile
1               5                   10                  15


Met Lys Arg Phe Phe Phe Asn Ile Phe Thr Arg Gln Cys Glu Glu Phe
            20                  25                  30


Ile Tyr Gly Gly Cys Glu Gly Asn Gln Asn Arg Phe Glu Ser Leu Glu
        35                  40                  45


Glu Cys Lys Lys Met Cys Thr Arg Asp
    50                  55


<210>  19
<211>  57
<212>  PRT
<213>  Unknown

<220>
<223>  Kunitz-like domain of tissue factor pathway inhibitor precursor 1.

<400>  19

Pro Asp Phe Cys Phe Leu Glu Glu Asp Pro Gly Ile Cys Arg Gly Tyr
1               5                   10                  15
```

16

Ile Thr Arg Tyr Phe Tyr Asn Asn Gln Thr Lys Gln Cys Glu Arg Phe
            20   25   30

Lys Tyr Gly Gly Cys Leu Gly Asn Met Asn Asn Phe Glu Thr Leu Glu
            35   40   45

Glu Cys Lys Asn Ile Cys Glu Asp Gly
       50   55

<210> 20
<211> 57
<212> PRT
<213> Unknown

<220>
<223> Kunitz-like domain of tissue factor pathway inhibitor precursor.

<400> 20

Pro Ser Trp Cys Leu Thr Pro Ala Asp Arg Gly Leu Cys Arg Ala Asn
1   5   10   15

Glu Asn Arg Phe Tyr Tyr Asn Ser Val Ile Gly Lys Cys Arg Pro Phe
            20   25   30

Lys Tyr Ser Gly Cys Gly Gly Asn Glu Asn Asn Phe Thr Ser Lys Gln
            35   40   45

Glu Cys Leu Arg Ala Cys Lys Lys Gly
       50   55

<210> 21
<211> 57
<212> PRT
<213> Unknown

<220>
<223> Kunitz-like domain of tissue factor pathway inhibitor precursor 2.

<400> 21

Ala Glu Ile Cys Leu Leu Pro Leu Asp Tyr Gly Pro Cys Arg Ala Leu
1   5   10   15

Leu Leu Arg Tyr Tyr Tyr Arg Tyr Arg Thr Gln Ser Cys Arg Gln Phe
            20   25   30

```
Leu Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Tyr Thr Trp Glu
        35                  40                  45


Ala Cys Asp Asp Ala Cys Trp Arg Ile
     50                  55


<210>   22
<211>   57
<212>   PRT
<213>   Unknown

<220>
<223>   Kunitz-like domain of tissue factor pathway inhibitor precursor 2.

<400>   22

Pro Ser Phe Cys Tyr Ser Pro Lys Asp Glu Gly Leu Cys Ser Ala Asn
1                   5                   10                  15


Val Thr Arg Tyr Tyr Phe Asn Pro Arg Tyr Arg Thr Cys Asp Ala Phe
        20                  25                  30


Thr Tyr Thr Gly Cys Gly Asn Asn Asp Asn Asn Phe Val Ser Arg Glu
        35                  40                  45


Asp Ser Lys Arg Ala Cys Ala Lys Ala
     50                  55


<210>   23
<211>   57
<212>   PRT
<213>   Unknown

<220>
<223>   Kunitz-like domain of amyloid precursor protein homologue.

<400>   23

Lys Ala Val Cys Ser Gln Glu Ala Met Thr Gly Pro Cys Arg Ala Val
1                   5                   10                  15


Met Pro Arg Thr Thr Phe Asp Leu Ser Lys Gly Lys Cys Val Arg Phe
        20                  25                  30


Ile Thr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Glu Ser Glu Asp
        35                  40                  45
```

18

Tyr Cys Met Ala Val Cys Lys Ala Met
    50   55

<210>   24
<211>   58
<212>   PRT
<213>   Unknown

<220>
<223>   Kunitz-like domain of aprotinin.

<400>   24

Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Lys Ala
1   5   10   15

Arg Ile Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
            20   25   30

Phe Val Tyr Gly Gly Cys Arg Ala Lys Arg Asn Asn Phe Lys Ser Ala
        35   40   45

Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
    50   55

<210>   25
<211>   51
<212>   PRT
<213>   Unknown

<220>
<223>   Kunitz-like domain of inter-alpha-trypsin inhibitor precursor.

<400>   25

Cys Gln Leu Gly Tyr Ser Ala Gly Pro Cys Met Gly Met Thr Ser Arg
1   5   10   15

Tyr Phe Tyr Asn Gly Thr Ser Met Ala Cys Glu Thr Phe Gln Tyr Gly
            20   25   30

Gly Cys Met Gly Asn Gly Asn Asn Phe Val Thr Glu Lys Glu Cys Leu
        35   40   45

Gln Thr Cys
    50

<210>   26

19

<211>   57
<212>   PRT
<213>   Unknown

<220>
<223>   Kunitz-like domain of inter-alpha-trypsin inhibitor precursor.

<400>   26

Val Ala Ala Cys Asn Leu Pro Ile Val Arg Gly Pro Cys Arg Ala Phe
1   5   10   15

Ile Gln Leu Trp Ala Phe Asp Ala Val Lys Gly Lys Cys Val Leu Phe
            20   25   30

Pro Tyr Gly Gly Cys Gln Gly Asn Gly Asn Lys Phe Tyr Ser Glu Lys
        35   40   45

Glu Cys Arg Glu Tyr Cys Gly Val Pro
    50   55

<210>   27
<211>   57
<212>   PRT
<213>   Unknown

<220>
<223>   Kunitz-like domain of amyloid precursor protein.

<400>   27

Glu Val Cys Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met
1   5   10   15

Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe
            20   25   30

Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu
        35   40   45

Tyr Cys Met Ala Val Cys Gly Ser Ala
    50   55

<210>   28
<211>   51
<212>   PRT
<213>   Unknown

<220>

20

<223> Kunitz-like domain of collagen alpha-3(VI) precursor.

<400> 28

Cys Lys Leu Pro Lys Asp Glu Gly Thr Cys Arg Asp Phe Ile Leu Lys
1   5   10   15

Trp Tyr Tyr Asp Pro Asn Thr Lys Ser Cys Ala Arg Phe Trp Tyr Gly
            20   25   30

Gly Cys Gly Gly Asn Glu Asn Lys Phe Gly Ser Gln Lys Glu Cys Glu
        35   40   45

Lys Val Cys
    50

<210>   29
<211>   ·57
<212>   PRT
<213>   Unknown

<220>
<223>   Kunitz-like domain of HKI-B9.

<400> 29

Pro Asn Val Cys Ala Phe Pro Met Glu Lys Gly Pro Cys Gln Thr Tyr
1   5   10   15

Met Thr Arg Trp Phe Phe Asn Phe Glu Thr Gly Glu Cys Glu Leu Phe
            20   25   30

Ala Tyr Gly Gly Cys Gly Gly Asn Ser Asn Asn Phe Leu Arg Lys Glu
        35   40   45

Lys Cys Glu Lys Phe Cys Lys Phe Thr
    50   55

<210>   30
<211>   46
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   5' sense oligonucleotide used in Example 6.

<400> 30
gccaagcttg gataaaagat atgaagaata ctgcaccgcc aacgca   46

21

```
<210>  31
<211>  35
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  3' antisense oligonucleotide used in Example 6.

<400>  31
ggggatcctc actgctggcg gaagcagcgg agcat                                    35


<210>  32
<211>  206
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Cloned bikunin cDNA fragment in Example 6.

<400>  32
ccaagcttgg ataaaagata tgaagaatac tgcaccgcca acgcagtcac tgggccttgc     60

cgtgcatcct tcccacgctg gtactttgac gtggagagga actcctgcaa taacttcatc    120

tatggaggct gccggggcaa taagaacagc taccgctctg aggaggcctg catgctccgc    180

tgcttccgcc agcagtgagg atcccc                                         206


<210>  33
<211>  28
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  3' PCR primer used to amplify EST R74593.

<400>  33
cgaagcttca tctccgaagc tccagacg                                        28


<210>  34
<211>  31
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  5' PCR primer used to amplify EST R74593.

<400>  34
aggatctaga caataattac ctgaccaagg a                                    31


<210>  35
<211>  37
```

<212> DNA
<213> Artificial Sequence

<220>
<223> 5' PCR primer used to amplify EST R35464.

<400> 35
ggtctagagg ccgggtccgt ttctcgcctg gctggga   37

<210> 36
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' PCR primer used to amplify EST R34808.

<400> 36
cacctgatcg cgagacccc   19

<210> 37
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector specific DNA sequencing primer (SP6).

<400> 37
gatttaggtg acactatag   19

<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Vector specific DNA sequencing primer (T7).

<400> 38
taatacgact cactataggg   20

<210> 39
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Gene specific DNA sequencing primer.

<400> 39
ttacctgacc aaggaggagt gc   22

23

```
<210>  40
<211>  23
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Gene specific DNA sequencing primer.

<400>  40
aatccgctgc attcctgctg gtg                                              23


<210>  41
<211>  20
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Gene specific DNA sequencing primer.

<400>  41
cagtcactgg gccttgccgt                                                  20


<210>  42
<211>  105
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  5' sense oligonucleotide used in Example 5.

<400>  42
gaaggggtaa gcttggataa aagatatgaa gaatactgca ccgccaacgc agtcactggg      60

ccttgccgtg catccttccc acgctggtac tttgacgtgg agagg                      105


<210>  43
<211>  129
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  3' antisense oligonucleotide used in Example 5.

<400>  43
cgcggatccc tactggcgga agcagcggag catgcaggcc tcctcagagc ggtagctgtt      60

cttattgccc cggcagcctc catagatgaa gttattgcag gagttcctct ccacgtcaaa      120

gtaccagcg                                                              129


<210>  44
<211>  207
```

<212> DNA
<213> Artificial Sequence

<220>
<223> Cloned bikunin fragment in Example 5.

<400> 44
gaaggggtaa gcttggataa aagatatgaa gaatactgca ccgccaacgc agtcactggg   60

ccttgccgtg catccttccc acgctggtac tttgacgtgg agaggaactc ctgcaataac   120

ttcatctatg gaggctgccg gggcaataag aacagctacc gctctgagga ggcctgcatg   180

ctccgctgct ccgccagta gggatcc   207

<210> 45
<211> 248
<212> PRT
<213> Artificial Sequence

<220>
<223> EST derived consensus sequence of human Bikunin (Figs. 4D and 4G).

<220>
<221> SIGNAL
<222> (1)..(23)
<223>

<400> 45

Met Leu Arg Ala Glu Ala Asp Gly Val Ser Arg Leu Leu Gly Ser Leu
1   5   10   15

Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp
            20   25   30

Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro
        35   40   45

Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr
    50   55   60

Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys
65   70   75   80

Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala
                85   90   95

Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg

Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr
        115   120   125

Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg
    130   135   140

Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly
145   150   155   160

Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met
                165   170   175

Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser
            180   185   190

Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe
        195   200   205

Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln
    210   215   220

Glu Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln
225   230   235   240

Leu Val Lys Asn Thr Tyr Val Leu
                245

<210> 46
<211> 782
<212> DNA
<213> Homo sapiens

<220>
<221> exon
<222> (61)..(780)
<223>

<400> 46
acctgatcgc gagaccccaa cggctggtgg cgtcgcctgc gcgtctcggc tgagctggcc   60

atg gcg cag ctg tgc ggg ctg agg cgg agc cgg gcg ttt ctc gcc ctg   108
Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu
1   5   10   15

```
ctg gga tcg ctg ctc ctc tct ggg gtc ctg gcg gcc gac cga gaa cgc        156
Leu Gly Ser Leu Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg
            20                  25                  30

agc atc cac gac ttc tgc ctg gtg tcg aag gtg gtg ggc aga tgc cgg        204
Ser Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg
        35                  40                  45

gcc tcc atg cct agg tgg tgg tac aat gtc act gac gga tcc tgc cag        252
Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln
    50                  55                  60

ctg ttt gtg tat ggg ggc tgt gac gga aac agc aat aat tac ctg acc        300
Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr
65                  70                  75                  80

aag gag gag tgc ctc aag aaa tgt gcc act gtc aca gag aat gcc acg        348
Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr
                85                  90                  95

ggt gac ctg gcc acc agc agg aat gca gcg gat tcc tct gtc cca agt        396
Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser
            100                 105                 110

gct ccc aga agg cag gat tct gaa gac cac tcc agc gat atg ttc aac        444
Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn
        115                 120                 125

tat gaa gaa tac tgc acc gcc aac gca gtc act ggg cct tgc cgt gca        492
Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
    130                 135                 140

tcc ttc cca cgc tgg tac ttt gac gtg gag agg aac tcc tgc aat aac        540
Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
145                 150                 155                 160

ttc atc tat gga ggc tgc cgg ggc aat aag aac agc tac cgc tct gag        588
Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
                165                 170                 175

gag gcc tgc atg ctc cgc tgc ttc cgc cag cag gag aat cct ccc ctg        636
Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu
            180                 185                 190

ccc ctt ggc tca aag gtg gtg gtt ctg gcg ggg ctg ttc gtg atg gtg        684
Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val
            195                 200                 205

ttg atc ctc ttc ctg gga gcc tcc atg gtc tac ctg atc cgg gtg gca        732
Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala
    210                 215                 220

cgg agg aac cag gag cgt gcc ctg cgc acc gtc tgg agc ttc gga gat        780
Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val Trp Ser Phe Gly Asp
225                 230                 235                 240

ga                                                                      782
```

27

<210> 47
<211> 240
<212> PRT
<213> Homo sapiens

<220>
<221> SIGNAL
<222> (1)..(27)
<223>

<400> 47

Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu
1   5   10   15

Leu Gly Ser Leu Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg
                20   25   30

Ser Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg
            35   40   45

Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln
        50   55   60

Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr
65   70   75   80

Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr
                85   90   95

Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser
                100   105   110

Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn
            115   120   125

Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
        130   135   140

Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
145   150   155   160

Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
                165   170   175

28

```
Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu
            180                 185                 190


Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val
            195                 200                 205


Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala
    210                 215                 220


Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val Trp Ser Phe Gly Asp
225                 230                 235                 240


<210>  48
<211>  1544
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1358)..(1358)
<223>  "n" is any nucleotide.


<220>
<221>  exon
<222>  (301)..(1056)
<223>


<400>  48
gcacgagttg ggaggtgtag cgcggctctg aacgcgctga gggccgttga gtgtcgcagg      60

cggcgagggc gcgagtgagg agcagaccca ggcatcgcgc gccgagaagg ccgggcgtcc     120

ccacactgaa ggtccggaaa ggcgacttcc gggggctttg gcacctggcg gaccctcccg     180

gagcgtcggc acctgaacgc gaggcgctcc attgcgcgtg cgcgttgagg ggcttcccgc     240

acctgatcgc gagaccccaa cggctggtgg cgtcgcctgc gcgtctcggc tgagctggcc     300

atg gcg cag ctg tgc ggg ctg agg cgg agc cgg gcg ttt ctc gcc ctg      348
Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu
1               5                   10                  15

ctg gga tcg ctg ctc ctc tct ggg gtc ctg gcg gcc gac cga gaa cgc      396
Leu Gly Ser Leu Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg
            20                  25                  30

agc atc cac gac ttc tgc ctg gtg tcg aag gtg gtg ggc aga tgc cgg      444
Ser Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg
        35                  40                  45
```

29

```
gcc tcc atg cct agg tgg tgg tac aat gtc act gac gga tcc tgc cag          492
Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln
    50              55                  60

ctg ttt gtg tat ggg ggc tgt gac gga aac agc aat aat tac ctg acc          540
Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr
65              70                  75                  80

aag gag gag tgc ctc aag aaa tgt gcc act gtc aca gag aat gcc acg          588
Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr
            85                  90                  95

ggt gac ctg gcc acc agc agg aat gca gcg gat tcc tct gtc cca agt          636
Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser
            100                 105                 110

gct ccc aga agg cag gat tct gaa gac cac tcc agc gat atg ttc aac          684
Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn
            115                 120                 125

tat gaa gaa tac tgc acc gcc aac gca gtc act ggg cct tgc cgt gca          732
Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
    130                 135                 140

tcc ttc cca cgc tgg tac ttt gac gtg gag agg aac tcc tgc aat aac          780
Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
145                 150                 155                 160

ttc atc tat gga ggc tgc cgg ggc aat aag aac agc tac cgc tct gag          828
Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
                165                 170                 175

gag gcc tgc atg ctc cgc tgc ttc cgc cag cag gag aat cct ccc ctg          876
Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu
            180                 185                 190

ccc ctt ggc tca aag gtg gtg gtt ctg gcg ggg ctg ttc gtg atg gtg          924
Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val
            195                 200                 205

ttg atc ctc ttc ctg gga gcc tcc atg gtc tac ctg atc cgg gtg gca          972
Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala
    210                 215                 220

cgg agg aac cag gag cgt gcc ctg cgc acc gtc tgg agc tcc gga gat          1020
Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp
225                 230                 235                 240

gac aag gag cag ctg gtg aag aac aca tat gtc ctg tgaccgccct              1066
Asp Lys Glu Gln Leu Val Lys Asn Thr Tyr Val Leu
            245                 250

gtcgccaaga ggactgggga agggagggga gactatgtgt gagctttttt taaatagagg       1126

gattgactcg gatttgagtg atcattaggg ctgaggtctg tttctctggg aggtaggacg       1186
```

30

```
gctgcttcct ggtctggcag ggatgggttt gctttggaaa tcctctagga ggctcctcct      1246

cgcatggcct gcagtctggc agcagccccg agttgtttcc tcgctgatcg atttctttcc      1306

tccaggtaga gttttctttg cttatgttga attccattgc ctccttttct cnatcacaga      1366

agtgatgttg gaatcgtttc ttttgtttgt ctgatttatg gttttttttaa gtataaacaa     1426

aagttttta ttagcattct gaaagaagga aagtaaaatg tacaagttta ataaaaggg        1486

gccttcccct ttagaataaa tttccagcat gttgctttca aaaaaaaaaa aaaaaaa         1544
```

```
<210>   49
<211>   252
<212>   PRT
<213>   Homo sapiens

<220>
<221>   SIGNAL
<222>   (1)..(27)
<223>


<400>   49
```

```
Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu
1               5                   10                  15


Leu Gly Ser Leu Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg
            20                  25                  30


Ser Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg
            35                  40                  45


Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln
        50                  55                  60


Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr
65                  70                  75                  80


Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr
                85                  90                  95


Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser
            100                 105                 110


Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn
            115                 120                 125
```

31

Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala
    130   135   140

Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn
145   150   155   160

Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu
                165   170   175

Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu
                180   185   190

Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val
            195   200   205

Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala
    210   215   220

Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp
225   230   235   240

Asp Lys Glu Gln Leu Val Lys Asn Thr Tyr Val Leu
                245   250

<210>   50
<211>   146
<212>   PRT
<213>   Homo sapiens

<400>   50

Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg
1   5   10   15

Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly
                20   25   30

Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu
            35   40   45

Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr
    50   55   60

Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln

Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys
                85   90   95

Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp
            100   105   110

Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly
        115   120   125

Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu
    130   135   140

Arg Cys
145

<210>   51
<211>   1530
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Consensus bikunin sequence of Fig. 4C.

<220>
<221>   misc_feature
<222>   (46)..(46)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (117)..(117)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (313)..(313)
<223>   "n" is any nucleotide.

<400>   51
gcgacctccg cgcgttggga ggtgtagcgc ggctctgaac gcgtgnaggg ccgttgagtg   60

tcgcaggcgg cgagggcgcg agtgaggagc agacccaggc atcgcgcgcc gagaagncgg   120

gcgtccccac actgaaggtc cggaaaggcg acttccgggg gctttggcac ctggcggacc   180

ctcccggagc gtcggcacct gaacgcgagg cgctccattg cgcgtgcgtt tgaggggctt   240

cccgcacctg atcgcgagac cccaacggct ggtggcgtcg ctgcgcgtct cggctgagct   300

ggccatggcg cantgttgcg ggctgaggcg gacggcgttt ctcgcctgct gggatcgctg   360

ctcctctctg gggtcctggc ggccgaccga gaacgcagca tccacgactt ctgcctggtg   420

tcgaaggtgg tgggcagatg ccgggcctcc atgcctaggt ggtggtacaa tgtcactgac   480

ggatcctgcc agctgtttgt gtatgggggc tgtgacggaa acagcaataa ttacctgacc   540

aaggaggagt gcctcaagaa atgtgccact gtcacagaga atgccacggg tgacctggcc   600

accagcagga atgcagcgga ttcctctgtc ccaagtgctc ccagaaggca ggattctgaa   660

gaccactcca gcgatatgtt caactatgaa gaatactgca ccgccaacgc agtcactggg   720

ccttgccgtg catccttccc acgctggtac tttgacgtgg agaggaactc ctgcaataac   780

ttcatctatg gaggctgccg gggcaataag aacagctacc gctctgagga ggcctgcatg   840

ctccgctgct ccgccagca ggagaatcct cccctgcccc ttggctcaaa ggtggtggtt   900

ctggcggggc tgttcgtgat ggtgttgatc ctcttcctgg gagcctccat ggtctacctg   960

atccgggtgg cacggaggaa ccaggagcgt gccctgcgca ccgtctggag ctccggagat   1020

gacaaggagc agctggtgaa gaacacatat gtcctgtgac cgccctgtcg ccaagaggac   1080

tggggaaggg aggggagact atgtgtgagc ttttttaaa tagagggatt gactcggatt   1140

tgagtgatca ttagggctga ggtctgtttc tctgggaggt aggacggctg cttcctggtc   1200

tggcagggat gggtttgctt tggaaatcct ctaggaggct cctcctcgca tggcctgcag   1260

tctggcagca gccccgagtt gtttcctcgc tgatcgattt ctttcctcca ggtagagttt   1320

tctttgctta tgttgaattc cattgcctct tttctcatca cagaagtgat gttggaatcg   1380

tttctttgt ttgtctgatt tatggttttt ttaagtataa acaaaagttt tttattagca   1440

ttctgaaaga aggaaagtaa aatgtacaag tttaataaaa aggggccttc ccctttagaa   1500

taaaaaaaaa aaaaaaaaaa aaaaaaaaa   1530

<210> 52
<211> 170
<212> PRT
<213> Homo sapiens

<400> 52

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
1   5   10   15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
        20   25   30

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
        35   40   45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
    50   55   60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
65   70   75   80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
                85   90   95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
        100   105   110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
        115   120   125

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
    130   135   140

Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
145   150   155   160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys
                165   170

<210>   53
<211>   27
<212>   PRT
<213>   Homo sapiens

<400>   53

Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu
1   5   10   15

Leu Gly Ser Leu Leu Leu Ser Gly Val Leu Ala
        20   25

<210>   54
<211>   23

```
<212>    PRT
<213>    Homo sapiens

<400>    54

Met Leu Arg Ala Glu Ala Asp Gly Val Ser Arg Leu Leu Gly Ser Leu
1                   5                   10                  15


Leu Leu Ser Gly Val Leu Ala
            20



<210>    55
<211>    102
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    5' sense oligonucleotide used for construct #2 in Example 5.

<400>    55
gaaggggtaa gcttggataa aagagaagaa tactgtactg ctaatgctgt tactggtcca      60

tgtagagctt cttttccaag atggtacttt gatgttgaaa ga                        102



<210>    56
<211>    129
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    3' antisense oligonucleotide used for construct #2 in Example 5.

<400>    56
actggatcct cattggcgaa aacatctcaa catacaggct tcttcagatc tgtaagaatt      60

tttattacct ctacaaccac cgtaaataaa attattacaa gaatttcttt caacatcaaa     120

gtaccatct                                                            129



<210>    57
<211>    108
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    5' sense oligonucleotide used for construct #3 in Example 5.

<400>    57
gaaggggtaa gcttggataa aagaaattac gaagaatact gtactgctaa tgctgttact      60

ggtccatgta gagcttcttt tccaagatgg tactttgatg ttgaaaga                  108
```

36

```
<210>  58
<211>  117
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  5' sense oligonucleotide used for construct #4 in Example 5.

<400>  58
gaaggggtaa gcttggataa aagagatatg tttaattacg aagaatactg tactgctaat      60

gctgttactg gtccatgtag agcttctttt ccaagatggt actttgatgt tgaaaga      117


<210>  59
<211>  19
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Sense oligonucleotide used in PCR in Example 8.

<400>  59
cacctgatcg cgagacccc                                                   19


<210>  60
<211>  23
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Antisense oligonucleotide used in PCR in Example 8.

<400>  60
ctggcggaag cagcggagca tgc                                              23


<210>  61
<211>  45
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Oligonucleotide used in in vitro mutagenesis in Example 9.

<400>  61
cgcgtctcgg ctgacctggc cctgcagatg gcgcacgtgt gcggg                     45


<210>  62
<211>  60
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Oligonucleotide used in in vitro mutagenesis in Example 9.
```

37

<400> 62
ctgccccttg gctcaaagta ggaagatctt cccccgggg gggtggttct ggcggggctg   60

<210> 63
<211> 14
<212> PRT
<213> Homo sapiens

<400> 63

Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Pro Leu Gly
1   5   10

<210> 64
<211> 20
<212> PRT
<213> Homo sapiens

<400> 64

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
1   5   10   15

Val Gly Arg Cys
            20

<210> 65
<211> 20
<212> PRT
<213> Homo sapiens

<400> 65

Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys
1   5   10   15

Arg Ala Ser Phe
            20

<210> 66
<211> 11
<212> PRT
<213> Homo sapiens

<400> 66

Pro Arg Tyr Val Asp Gly Ser Gln Phe Tyr Gly
1   5   10

38

<210> 67
<211> 55
<212> PRT
<213> Homo sapiens

<400> 67

Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe Leu
1   5   10   15

Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln Glu
            20   25   30

Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu
        35   40   45

Val Lys Asn Thr Tyr Val Leu
    50   55

<210> 68
<211> 43
<212> PRT
<213> Homo sapiens

<400> 68

Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe Leu
1   5   10   15

Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln Glu
            20   25   30

Arg Ala Leu Arg Thr Val Trp Ser Phe Gly Asp
        35   40

<210> 69
<211> 55
<212> PRT
<213> Homo sapiens

<400> 69

Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe Leu
1   5   10   15

Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln Glu
            20   25   30

Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu
        35   40   45

Val Lys Asn Thr Tyr Val Leu
    50   55

<210>   70
<211>   213
<212>   PRT
<213>   Homo sapiens

<400>   70

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
1   5   10   15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
            20   25   30

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
            35   40   45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
    50   55   60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
65   70   75   80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
            85   90   95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
            100   105   110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
            115   120   125

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
    130   135   140

Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
145   150   155   160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
            165   170   175

40

Leu Phe Val Met Val Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr
            180   185   190

Leu Ile Arg Val Ala Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val
            195   200   205

Trp Ser Phe Gly Asp
        210

<210> 71
<211> 225
<212> PRT
<213> Homo sapiens

<400> 71

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
1   5   10   15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr
            20   25   30

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
            35   40   45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
        50   55   60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
65   70   75   80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser
                .85   90   95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
            100   105   110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
            115   120   125

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
        130   135   140

.

41

```
Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
145             150             155             160


Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
                165             170             175


Leu Phe Val Met Val Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr
            180             185             190


Leu Ile Arg Val Ala Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val
        195             200             205


Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu Val Lys Asn Thr Tyr Val
    210             215             220


Leu
225



<210>   72
<211>   19
<212>   PRT
<213>   Homo sapiens

<220>
<221>   MISC_FEATURE
<222>   (9)..(9)
<223>   "Xaa" is Ile, Thr, Asn, or Ser.


<220>
<221>   MISC_FEATURE
<222>   (11)..(11)
<223>   "Xaa" is Val, Ala, Glu, or Gly.


<220>
<221>   MISC_FEATURE
<222>   (17)..(17)
<223>   "Xaa" is Ser, Pro, Thr, or Ala.


<220>
<221>   MISC_FEATURE
<222>   (19)..(19)
<223>   "Xaa" is Tyr, His, Asn, or Asp.


<400>   72

Arg Pro Leu Gln Arg Tyr Val Ser Xaa Ile Xaa Arg Ile Ile Ala Pro
1               5               10              15
```

Xaa Thr Xaa

<210>   73
<211>   108
<212>   PRT
<213>   Homo sapiens

<400>   73

Pro Gly His Gln Gln Glu Cys Ser Gly Phe Leu Cys Pro Lys Ser Pro
1   5   10   15

Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr Glu
            20   25   30

Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe
        35   40   45

Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile
    50   55   60

Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala
65   70   75   80

Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu Pro Leu
            85   90   95

Gly Ser Lys Val Val Val Leu Ala Gly Ala Val Ser
            100   105

<210>   74
<211>   31
<212>   PRT
<213>   Homo sapiens

<220>
<221>   MISC_FEATURE
<222>   (25)..(25)
<223>   "Xaa" is Asp or Glu.

<400>   74

Ser Phe Ser Trp Gly Ala Ser Met Val Leu Leu Ile Pro Gly Gly Lys
1   5   10   15

43

Glu Glu Pro Gly Ala Cys Pro Ala Xaa Arg Leu Glu Leu Arg Arg
            20   25   30

<210> 75
<211> 511
<212> DNA
<213> Artificial Sequence

<220>
<223> Corrected version of EST R74593 (see Fig. 3 and page 28).

<220>
<221> misc_feature
<222> (425)..(425)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (482)..(482)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (510)..(510)
<223> "n" is any nucleotide.

<400> 75
gcaataatta cctgaccaag gaggagtgcc tcaagaaatg tgccactgtc acagagaatg   60

ccacgggtga cctggccacc agcaggaatg cagcggattc ctctgtccca agtgctccca   120

gaaggcagga ttctgaagac cactccagcg atatgttcaa ctatgaagaa tactgcaccg   180

ccaacgcagt cactgggcct tgccgtgcat ccttcccacg ctggtacttt gacgtggaga   240

ggaactcctg caataacttc atctatggag gctgccgggg caataagaac agctaccgct   300

ctgaggaggc ctgcatgctc cgctgcttcc gccagcagga gaatcctccc ctgccccttg   360

gctcaaaggt ggtggttctg gccggggctg tttcgtgatg gtgttgatcc ttttcctggg   420

gagcntccat ggtcttactg attccgggtg gcaaggagga accaggagcg tgccctgcgg   480

ancgtctgga gcttcggaga tgacaagggn t   511

<210> 76
<211> 31
<212> PRT
<213> Artificial Sequence

<220>

44

<223> Amino acids 184-214 of translation of consensus sequence in Fig. 3.

<220>
<221> MISC_FEATURE
<222> (25)..(25)
<223> "Xaa" is Asp or Glu.

<400> 76

Ser Phe Ser Trp Gly Ala Ser Met Val Leu Leu Ile Pro Gly Gly Lys
1   5   10   15

Glu Glu Pro Gly Ala Cys Pro Ala Xaa Arg Leu Glu Leu Arg Arg
            20   25   30

<210> 77
<211> 312
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (45)..(45)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (49)..(49)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (118)..(118)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (231)..(231)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (305)..(305)
<223> "n" is any nucleotide.

<400> 77
gcgacctccg cgcgttggga ggtgtagcgc ggctctgaac gcgtngagng gccgttgagt   60

gtcgcaggcg gcgagggcgc gagtgaggag cagacccagg catcgcgcgc cgagaagncg   120

45

```
ggcgtccccca cactgaaggt ccggaaaggc gacttccggg ggctttggca cctggcggac      180

cctccccggag cgtcggcacc tgaacgcgag gcgctccatt gcgcgtgcgt ntgaggggct      240

tcccgcacct gatcgcgaga ccccaacggc tggtggcgtc gcctgcgcgt ctcggctgag      300

ctggncatgt cg                                                            312
```

```
<210>    78
<211>    330
<212>    DNA
<213>    Homo sapiens

<220>
<221>    misc_feature
<222>    (117)..(117)
<223>    "n" is any nucleotide.


<220>
<221>    misc_feature
<222>    (123)..(123)
<223>    "n" is any nucleotide.


<220>
<221>    misc_feature
<222>    (321)..(321)
<223>    "n" is any nucleotide.


<400>    78
gcgacctccg cgcgttggga ggtgtagcgc ggctctgaac gcgtgcaggg ccgttgagtg       60

tcgcaggcgg cgagggcgcg agtgaggagc agacccaggc atcgcgcgcc gagaagncgg      120

gcntccccac actgaaggtc cggaaaggcg acttccgggg gctttggcac ctggcggacc      180

ctcccggagc gtggcacctg aacgcgaggc gctccattgc gcgtgcgttt gaggggcttc      240

ccgcacctga tcgcgagacc ccaacggctg gtggcgtcgc ctgcgcgtct cggctgagct      300

ggccatggcg cactgtgcgg ngctgaggcg                                        330
```

```
<210>    79
<211>    283
<212>    DNA
<213>    Homo sapiens

<220>
<221>    misc_feature
<222>    (9)..(9)
<223>    "n" is any nucleotide.
```

<220>
<221> misc_feature
<222> (11)..(11)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (222)..(222)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (231)..(231)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (262)..(262)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (267)..(274)
<223> "n" is any nucleotide.

<400> 79
ttgagtgtng naggcggcga gggcgcgagt gaggagcaga cccaggcatc gcgcgccgag   60

aaggccgggc gtccccacac tgaaggtccg gaaaggcgac ttccggggggc tttggcacct   120

ggcggaccct cccggagcgt cggcacctga acgcgaggcg ctccattgcg cgtgcgtttg   180

aggggcttcc cgcacctgat cgcgagaccc caacggctgg tngcgtcgct ncgcgtctcg   240

gctgagcttg gccatggcgc antgttncgg gctnaggcgg acg   283

<210> 80
<211> 423
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (44)..(44)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (46)..(46)

47

<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (76)..(76)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (114)..(114)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (187)..(187)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (268)..(268)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (309)..(309)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (317)..(317)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (332)..(332)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (370)..(370)
<223> "n" is any nucleotide.

<400> 80
ggcgacctcc gcgcgttggg aggtgtagcg cgctctgaac gggnangggc cgttgagtgt   60

cgcaggcggc agggcngagt gaggagcaga cccaggcatc gcgcgccgag aagncgggcg   120

tccccacact gaaggtccgg aaaggcgact tccggggggct ttggcacctg gcggacgtcc   180

```
cggagcnggc acctgaacgc gaggcgctcc attgcgcgtg cgtttgaggg gcttcccgca    240

cctgatcgcg agaccccaac ggctggtngc gtcgctggcg cgttctcggc tgagctggcc    300

atggcgcant gttgcgngct gaggcggacc gncgtttttc ttcgccttgc tgggattcgc    360

ttgcttcctn tctgggggtt cctgggcggc cgaccgagaa cgcagcatcc aagaattttt    420

gcc                                                                   423


<210>   81
<211>   344
<212>   DNA
<213>   Homo sapiens

<220>
<221>   misc_feature
<222>   (35)..(35)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (148)..(148)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (235)..(235)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (261)..(261)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (272)..(272)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (293)..(293)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (300)..(300)
<223>   "n" is any nucleotide.
```

49

<220>
<221> misc_feature
<222> (313)..(313)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (320)..(320)
<223> "n" is any nucleotide.

<400> 81
ggaggagcag acccaggcat cgcgcgccga gaagncgggc gtccccacac tgaaggtccg   60

gaaaggcgac ttccgggggc tttggcacct ggcggaccct cccggagcgt cggcacctga   120

acgcgaggcg ctccattgcg cgtgcgtntg gaggggcttc ccgcacctga tcgcgagacc   180

ccaacggctg gtgggcgtcg ctgcgcgtct tcggctgagc tgggccatgg cgcanttgtt   240

gcgggctgag gcggacgcgg ncgtttttc gnccttgctg ggattcgttg ttnctctctn   300

ggggttctgg ggnggccgan cgagaacgca agcattcacg attt   344

<210> 82
<211> 253
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (56)..(56)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (137)..(137)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (145)..(145)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (159)..(159)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (233)..(233)
<223> "n" is any nucleotide.

<400> 82
ggaccctccc ggagcgtcgg cacctgaacg cgaggcctcc attgcggtgc gtgtgnaggg   60

gcttcccgca cctgatcgcg agaccccaac ggctggtggc gtcgctgcgc gtctcggctg   120

agctggccat ggcgcantgt tgcgngctga ggcggcggnc gttttctcgc ctgctgggat   180

cgctgctcct ctctggggtc ctggcggccg accgagaacg cagcatccac ganttcttcc   240

tggtgttcga agg   253

<210> 83
<211> 419
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (20)..(20)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (26)..(26)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (95)..(95)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (292)..(292)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (313)..(315)
<223> "n" is any nucleotide.

<400> 83
ttagcgcggc tctgaacgcn agaagnggcc gttgagtgtc gcaggcggcg agggcgcgag   60

tgaggagcag acccaggcat cgcgcgccga gaagncgggc gtccccacac tgaaggtccg   120

51

```
gaaaggcgac ttccgggggc tttggcacct ggcggaccct cccggagcgt cggcacctga      180

acgcgaggcg ctccattgcg cgtgcgtttg aggggcttcc cgcacctgat cgcgagaccc      240

caacggctgg tggcgtcgcc tgcgcgtctc ggctgagctg gccatggcgc antggtgcgg      300

gcttgaggcg gannngccgt ttctcgcctg ctgggatcgc tgctcctctc tggggtcctg      360

gcggccgacc gagaacgcag catccacgac ttctgcctgg tgtcgaaggt ggtgggcag       419
```

<210> 84
<211> 477
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (27)..(27)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (139)..(139)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (223)..(223)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (232)..(232)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (302)..(302)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (310)..(310)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (322)..(322)
<223> "n" is any nucleotide.

52

```
<220>
<221>  misc_feature
<222>  (328)..(328)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (357)..(357)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (375)..(375)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (392)..(392)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (398)..(398)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (405)..(405)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (427)..(427)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (437)..(437)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (449)..(449)
<223>  "n" is any nucleotide.


<220>
```

<220>
<221> misc_feature
<222> (458)..(458)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (474)..(474)
<223> "n" is any nucleotide.

<400> 84
agacccaggc atcgcgcgcc gagaagncgg gcgtccccac actgaaggtc cggaaaggcg   60

acttccgggg gctttggcac ctggcggacc ctcccggagc gtcggcacct gaacgcgagg   120

cctccattgc cgtgcgttng aggggcttcc cggaacttga tcgcgagacc ccaacggctg   180

gtggcgtcgc tgcgcgtcct cggctgagct ggccatggcg cantggtgcc gngctgaggc   240

cggagggccg gtttctcgcc ttgctgggat cgctgctcct ctctggggtc ctggcggccg   300

ancgaagaan gcagcaatcc angaattnct gcctggtgtt cgaaagttgg tgggcanatt   360

ccgggggcctt catgnctaag gttggttggt anaatgtnaa ttaangattc ttgcaactgt   420

ttgtgtnatt ggggctntta aacggaaana caataatnac ctgaccaaag aagnaat   477

<210> 85
<211> 393
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (361)..(361)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (367)..(367)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (384)..(384)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (390)..(390)
<223> "n" is any nucleotide.

<400> 85

```
ggccgggtcg tttctcgcct ggctgggatc gctgctcctc tctggggtcc tggccggccg      60

accgagaacg cagcatccac gacttctgcc tggtgtcgaa ggtggtgggc agattccggg     120

cctccatgcc taggtggtgg tacaatgtca ctgacggatc ctgccagctg tttgtgtatg     180

ggggctgtga cggaaacagc aataattacc tgaccaagga ggagtgcctc aagaaatgtg     240

ccactgtcac agagaatgcc acgggtgacc tggccaccag caggaatgca gcggattcct     300

ctgtcccaag tgctcccaga aggcaggatt cttgaagacc acttcagcga tatgtttcaa     360

ntattgnaag aataattgca ccgncaacgn att                                  393
```

<210> 86
<211> 428
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (3)..(3)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (11)..(12)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (17)..(17)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (48)..(48)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (425)..(425)
<223> "n" is any nucleotide.

<400> 86

```
gcngcgcgtt nntcgcntgc tgggatcgct gcacctctct ggggtcgngg cggccgaccg      60

agaacgcagc atccacgact tctgcctggt gtcgaaggtg gtgggcagat gccgggcctc     120
```

```
catgcctagg tggtggtaca atgtcactga cggatcctgc cagctgtttg tgtatggggg    180

ctgtgacgga aacagcaata attacctgac caaggaggag tgcctcaaga aatgtgccac    240

tgtcacagag aatgccacgg gtgacctggc caccagcagg aatgcagcgg attcctctgt    300

cccaagtgct cccagaaggc aggattctga agaccactcc agcgatatgt tcaactatga    360

agaatactgg caccgccaac gcattcactg ggcctgcgtg catccttccc acgctggtac    420

tttgncgt                                                            428
```

<210> 87
<211> 425
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (7)..(7)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (403)..(403)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (409)..(409)
<223> "n" is any nucleotide.

<400> 87
```
ctgggantcg ctgctcctct ctggggtcct ggcggccgac cgagaacgca gcatccacga     60

cttctgcctg gtgtcgaagg tggtgggcag atgccgggcc tccatgccta ggtggtggta    120

caatgtcact gacggatcct gccagctgtt tgtgtatggg ggctgtgacg gaaacagcaa    180

taattacctg accaaggagg agtgcctcaa gaaatgtgcc actgtcacag agaatgccac    240

gggtgacctg gccaccagca ggaatgcagc ggattcctct gtcccaagtg ctcccagaag    300

gcaggattct gaagaccact ccagcgatat gttcaactat gaagaatact gcaccgccaa    360

cgcagtcact ggggccttgc gtggaatcct ttcccacgct ggnaatttng acgttgagaa    420

ggaac                                                               425
```

<210> 88
<211> 343
<212> DNA
```
```

<213> Homo sapiens

<220>
<221> misc_feature
<222> (48)..(48)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (62)..(62)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (211)..(211)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (232)..(232)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (245)..(245)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (309)..(309)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (318)..(318)
<223> "n" is any nucleotide.

<400> 88
gattcggcac aggggaaaca gcaataatta cctgaccaag gaggagtncc tcaagaaatg   60

tnccactgtc acagagaatg ccacgggtga cctggccacc agcaggaatg cagcggattc   120

ctctgtccca agtgctccca gaaggcagga ttctgaagac cactccagcg atatgttcaa   180

ctatgaagaa tactgcaccg ccaacgcagt ncactgggcc ttgcgtggca tnccttccca   240

cgctngtact ttgacgtgga gaggaactcc tggcaataac ttcatctatg gaggcttgcc   300

ggggcaatna agaacagntt accgctcttt aggaggcctg cat   343

57

```
<210>  89
<211>  510
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (424)..(424)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (481)..(481)
<223>  "n" is any nucleotide.


<220>
<221>  misc_feature
<222>  (509)..(509)
<223>  "n" is any nucleotide.


<400>  89
gcaataatta cctgaccaag gaggagtgcc tcaagaaatg tgccactgtc acagagaatg      60

ccacgggtga cctggccacc agcaggaatg cagcggattc ctctgtccca agtctcccag     120

aaggcaggat tctgaagacc actccagcga tatgttcaac tatgaagaat actgcaccgc     180

caacgcagtc actgggcctt gccgtgcatc cttcccacgc tggtactttg acgtggagag     240

gaactcctgc aataacttca tctatggagg ctgccggggc aataagaaca gctaccgctc     300

tgaggaggcc tgcatgctcc gctgcttccg ccagcaggag aatcctcccc tgccccttgg     360

ctcaaaggtg gtggttctgg ccggggctgt ttcgtgatgg tgttgatcct tttcctgggg     420

agcntccatg gtcttactga ttccgggtgg caaggaggaa ccaggagcgt gccctgcgga     480

ncgtctggag cttcggagat gacaagggnt                                      510


<210>  90
<211>  293
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (257)..(257)
<223>  "n" is any nucleotide.


<400>  90
gctaccgctc tgaggaggcc tgcatgctcc gctgcttccg ccagcaggag aatcctcccc      60
```

58

```
tgccccttgg ctcaaaggtg gtggttctgg cggggctgtt cgtgatggtg ttgatcctct      120

tcctggggag cctccatggt ctacctgatc cgggtggcac ggagggaacc agggagcgtg      180

ccctgcgcac cgtctgggag ctccggagat gacaagggag cagctgggtg aagaacacat      240

atgttcctgt tgaccgncct gttcgccaag aggattgggg gaagggaggg gga            293
```

<210> 91
<211> 282
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (19)..(19)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (147)..(147)
<223> "n" is any nucleotide.


```
<400> 91
ttccgccaag caggaaaant cctcccctcc cccttggctc aaaggtggtg gttcctggcg       60

gggctgttcg tgatggtgtt gatccctcct tcccgggagc ctcccatggt cctaccctga      120

tccgggtggc acggaggaac ccaggancgt gccctgcgca ccgtctggag ctccggagat      180

gacaaggagc agctggtgaa gaacacatat gtcctgtgac cgccctgtcg ccaagaggac      240

tggggaaggg aggggagact atgtgtgagc tttttttaaa ta                        282
```

<210> 92
<211> 390
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (33)..(33)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (55)..(55)
<223> "n" is any nucleotide.

<220>

<220>
<221> misc_feature
<222> (118)..(118)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (213)..(213)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (228)..(228)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (259)..(259)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (267)..(267)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (324)..(324)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (333)..(333)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (344)..(344)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (387)..(387)
<223> "n" is any nucleotide.

<400> 92
gagaggaact cctgcaataa cttcatctat ggnggctgcc ggggaataag aacanctacc   60

gctctgagga ggcctgcgtg ctccgctgct tccgctgtgt gttctcttcc aggccagcag   120

60

```
gagaatcctc ccctgcccct tggctcaaag gtggtggttc tggcgggggct gttcgtgatg      180

gtgttgatcc tcttcctggg agcctccatg gtntacctga tccgggtngc acggaggaac      240

cagggagcgt gccctgcgna ccgtctngga gctccggaga tgacaaggag cagctggtga      300

agaacacata tgtcctgtga ccgncctgtt cgncaagagg actngggggaa aggggagggg      360

agattatgtg ttgagttttt tttaaantag                                        390
```

<210>   93
<211>   406
<212>   DNA
<213>   Homo sapiens

<220>
<221>   misc_feature
<222>   (306)..(306)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (328)..(328)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (342)..(342)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (365)..(365)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (370)..(370)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (377)..(377)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (382)..(382)
<223>   "n" is any nucleotide.

<220>
<221> misc_feature
<222> (402)..(402)
<223> "n" is any nucleotide.

<400> 93
gattcggaac gaggagccgg ggcaataaga acagctaccg ctctgaggag gcctgcatgc   60

tccgctgctt ccgccagcag gagaatcctc ccctgcccct tggctcaaag gtggtggttc   120

tggcgggggct gttcgtgatg gtgttgatcc tcttcctggg agcctccatg gtctacctga   180

tccgggtggc acggaggaac cagggagcgt gccctgcgca ccgtctggga gctccggaga   240

tgacaaggga gcagctggtg aagaacacat atgttcctgt tgaccgccct gttcgccaag   300

agggantggg ggaaggggag ggggaganta ttgttgttga gntttttttt aaaattagga   360

ggggnttgan ttcgggnttt tnagttgatc catttagggg gntgag   406

<210> 94
<211> 360
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(1)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (142)..(142)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (339)..(339)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (347)..(347)
<223> "n" is any nucleotide.

<400> 94
nggccttgca gtgctccgct gcttccgcca gcaggagaat cctcccctgc cccttggctc   60

aaaggtggtg gttctggcgg ggctgttcgt gatggtgttg atcctcttcc tgggagcctc   120

```
catggtctac ctgatccggg tngcacggag gaaccaggag cgtgccctgc gcaccgtctg      180

gagctccgga gatgacaagg agcagctggt gaagaacaca tatgtcctgt gaccgccctg      240

tcgccaagag gactggggaa gggaggggag actatgtgtg agcttttttt aaatagaggg      300

attgactcgg atttgagtga tcattagggc tgaggtctnt ttctctngga ggtaggacga      360
```

<210> 95
<211> 438
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (334)..(334)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (368)..(368)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (376)..(376)
<223> "n" is any nucleotide.

<400> 95
```
cggggctgtt cgtgatggtg ttgatcctct tcctgggagc ctccatggtc tacctgatcc       60

gggtggcacg gaggaaccag gagcgtgccc tgcgcaccgt ctggagctcc ggagatgaca      120

aggagcagct ggtgaagaac acatatgtcc tgtgaccgcc ctgtcgccaa gaggactggg      180

gaagggaggg gagactatgt gtgagctttt tttaaataga gggattgact cggatttgag      240

tgatcattag gctgaggtc tgtttctctg ggaggtagga cggctgcttc ctgggtcttg      300

gcagggatgg ggtttgcttt gggaaatcct cttnggaggc tcctccttcg catgggcctt      360

gcagtctngg cagcancccc cgagtttttt tccttcgctg atccgatttc ttttcctcca      420

ggtaagaatt tttctttt                                                    438
```

<210> 96
<211> 448
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (108)..(108)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (261)..(261)
<223> "n" is any nucleotide.

<400> 96

```
gggaaccagg agcgtgccct gcgcaccggt ctggagctcc ggagatgaca aggagcagct      60

ggtgaagaac acatatgtcc tgtgaccgcc ctgtcgccaa gaggactngg gaagggaggg     120

gagactatgt gtgagctttt tttaaataga gggattgact cggatttgag tgatcattag     180

ggctgaggtc tgtttctctg ggaggtagga cggctgcttc ctggtctggc agggatgggt     240

ttgctttgga gaatcctcta ngaggctcct cctcgcatgg cctgcagtct ggcagcagcc     300

ccgagttgtt tcctcgctga tcgatttctt tcctccaggt agagttttct ttgcttatgt     360

tgaattccat tgcctctttt ctcatcacag aagtgatgtt ggaatcgttt cttttgtttt     420

gtctgattta tgggttttttt ttaagtat                                       448
```


<210> 97
<211> 331
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (20)..(20)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (30)..(30)
<223> "n" is any nucleotide.

<400> 97

```
attagggctg aggtctgttn ctctgggagn taggacggct gccttcctgg tctggcaggg      60

atgggtttgc tttggaaatc ctctaggagg ctcctcctcg catggcctgc agttctgcag     120

cagccccgag ttgtttcctc gctgatcgat ttctttcctc caggtagagt tttctttgct     180

tatgttgaat ccattgcct cttttctcat cacagaagtg atgttggaat cgtttctttt     240

gtttgtctga tttatggttt ttttaagtat aaacaaaagt tttttattag cattctgaaa     300
```

gaaggaaagt aaaatgtaca agtttaataa a   331

<210> 98
<211> 373
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (45)..(45)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (102)..(102)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (105)..(105)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (159)..(159)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (174)..(174)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (213)..(213)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (337)..(337)
<223> "n" is any nucleotide.

<400> 98
gattgactcg gatttgagtg atcattaggg ctgaggtctg tttcnctggg aggtaggacg   60

gctgctcccc tggtctggca gggatggggtt tgctttggaa anccnctagg aggctcctcc   120

tcgcatggcc tgcagtctgg cagcagcccc gagttgttnc ctcgctgatc gatntctttc   180

```
ccccaggtag agttttcttt gcttatgttg aantccattg cctcttttct catcacagaa      240

gtgatgttgg aatcgtttct tttgtttgtc tgatttatgg ttttttaag tataaacaaa      300

agttttttat tagcattctg aaagaaggaa agtaaantgt acaagtttaa taaaaagggg      360

ccttcccctt taa                                                         373


<210>   99
<211>   380
<212>   DNA
<213>   Homo sapiens

<400>   99
gattgactcg gatttggagt gatcattagg gctgaggtct gtttctctgg gaggtaggac       60

ggctgcttcc tggtctggca gggatggggtt tgctttggaa atcctctagg aggctcctcc      120

ttcgcatggc ctgcagtctg gcagcagccc cgagttgttt cctcgctgat cgatttcttt      180

cctccaggta gagttttctt tgcttatgtt gaattccatt gcctcttttc tcatcacaga      240

agtgatgttg gaatcgtttc ttttgtttgt ctgatttatg gtttttttaa gtataaacaa      300

aagttttttta ttagcattct gaaagaagga agtaaaatg tacaagttta ataaaaaggg       360

gccttcccct ttagaataaa                                                  380


<210>   100
<211>   320
<212>   DNA
<213>   Homo sapiens

<220>
<221>   misc_feature
<222>   (304)..(304)
<223>   "n" is any nucleotide.


<220>
<221>   misc_feature
<222>   (309)..(309)
<223>   "n" is any nucleotide.


<400>   100
tctggcaggg atgggtttgc tttggaaatc ctctaggagg ctcctcctcg catggcctgc       60

agtctggcag cagcccgagt tgtttcctcg ctgatcgatt tctttcctcc aggtagagtt      120

ttctttgctt atgttgaatt ccattgcctc ttttctcatc acagaagtga tgttggaatc      180

gtttcttttg tttgtctgat ttatggtttt tttaagtata aacaaaagtt ttttattagc      240

attctgaaag aaggaaagta aaatgtacaa gtttaataaa aagggggcctt cccctttagg      300
```

66

aatnaaaana aaaaagggtg   320

<210> 101
<211> 397
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (24)..(24)
<223> "n" is any nucleotide.

<400> 101
gattgactcg gatttgagtg atcnattagg gctgaggtct gtttctctgg gaggtaggac   60

ggctgcttca tggtctggca gggatgggtt tgctttggaa atcctctagg aggctcctcc   120

tcgcatggcc tgcagtctgc agcagccccg agttgtttcc tcgctgatcg atttctttcc   180

tccaggtaga gttttctttg cttatgttga attccattgc ctcttttctc atcacagaag   240

tgatgttgga atcgtttctt ttgtttgtct gatttatggt tttttttaagt ataaacaaaa   300

gttttttatt agcattctga aagaaggaaa gtaaaatgta caagtttaat aaaaaggggc   360

cttccccttt agaataaatt tcagcatgtg ctttcaa   397

<210> 102
<211> 289
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (61)..(61)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (74)..(74)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (122)..(122)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (184)..(184)

67

<400>   102
gaggctcctc ctcgcatggc ctgcagtctt ggcagcagcc ccgagttgtt tcctcgctga   60

ncgatttctt tccnccaggt agagttttct ttgcttatgt tgaattccat tgcctctttt   120

cncatcacag aagtgatgtt ggaatcgttt cttttgtttg tctgatttat ggttttttta   180

agtntaaaca aaagtttttt attagcattc tgaaagaagg aaagtaaaat gtacaagttt   240

aataaaaagg ggccttcccc tttagaataa aaaaaaaaaa aaaaaaaaa   289

<210>   103
<211>   311
<212>   DNA
<213>   Homo sapiens

<220>
<221>   misc_feature
<222>   (7)..(7)
<223>   "n" is any nucleotide.

<400>   103
cttttgnaaa tcctctagga ggctcctcct cgcatggcct gcagtctgca gcagccccga   60

gttgtttcct cgctgatcgg atttctttcc tccaggtaga gttttctttg cttatgttga   120

attccattgc ctcttttctc atcacagaag tgatgttgga atcgtttctt ttgtttgtct   180

gatttatggt tttttaagt ataaacaaaa gttttttatt agcattctga aagaaggaaa   240

gtaaaatgta caagtttaat aaaaggggc cttccccttt agaataaatt tcagcatgtg   300

ctttcaaaaa a   311

<210>   104
<211>   338
<212>   DNA
<213>   Homo sapiens

<220>
<221>   misc_feature
<222>   (32)..(32)
<223>   "n" is any nucleotide.

<220>
<221>   misc_feature
<222>   (67)..(67)
<223>   "n" is any nucleotide.

<220>
<221> misc_feature
<222> (136)..(136)
<223> "n" is any nucleotide.

<400> 104

```
ggtctggcag ggatgggttt gcctttggaa ancctctagg aggctcctcc tcgcatggcc      60

tgcagtnctg gcagcagacc ccgagttgtt tcctcgctga tcgatttctt taccccagg      120

tagagttttc ctttgnctta tgttgaattc cattgcctct tttactcatc acagaagtga      180

tgttggaatc gtttcttttg tttgtctgat ttatggtttt tttaagtata aacaaaagtt      240

ttttattagc attctgaaag aaggaaagta aaatgtacaa gtttaataaa aaggggcctt      300

cccctttaga ataaaaaaaa aaaaaaaaaa aaaaaaaa                              338
```


<210> 105
<211> 343
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (13)..(13)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (19)..(19)
<223> "n" is any nucleotide.

<220>
<221> misc_feature
<222> (107)..(107)
<223> "n" is any nucleotide.

<400> 105

```
ccctgggtcc tgncaaggna tggggtttgc tttggaaatc ctcttaggag gctcctcctc      60

gcatggcctg cagtctggca gcagccccga gttgtttcct cgctgancga tttctttcct      120

ccaggtagag ttttctttgc ttatgttgaa ttccattgcc tcttttctca tcacagaagt      180

gatgttggaa tcgtttcttt tgtttgtctg atttatggtt tttttaagta taaacaaaag      240

tttttttatta gcattctgaa agaaggaaag taaaatgtac aagtttaata aaaaggggcc      300

ttcccccttta gaataaaaaa aaaaaaaaaa aaaaaaaaaa aaa                        343
```